APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,189	02/15/2002	Akira Tsukihashi	81784.0249	5434

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EXAMINER
AGUSTIN, PETER VINCENT

ART UNIT	PAPER NUMBER
2652	

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-4,6-12,14-20 and 22_ is/are rejected.

7) ☒ Claim(s) _4,5,9,13,17,20 and 21_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _15 February 2002_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers

have been placed of record in the file.

Claim Objections

2.   Claims 4, 9, 17 & 20 are objected to because of the following informalities:

Claim 4, line 1: "claim 2" should be --claim 3--.

Claim 9, line 4: "the pregroove" should be --a pregroove--.

Claim 17, line 3: "the disc" should be --a disc--.

Claim 20, line 1: "claim 18" should be --claim 19--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Applicant cannot rely upon the foreign priority papers to overcome this rejection because

a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See

MPEP § 201.15.

5.   Claims 1, 2, 6, 15, 17, 18 & 22 rejected under 35 U.S.C. 102(e) as being anticipated by

Shimizu et al. (hereafter Shimizu) (JP 2002025064 A).

In regard to claims 1, 15 & 17, Shimizu discloses a disc recording apparatus (solution) for recording data on a disc (101), a disc (101) recorded with data, or a method for recording data comprising a recording address y (paragraph 0090) calculated from $y=n(x-m)+m$, where x (paragraph 0088) is an absolute time address generated on the basis of a pregroove formed on the disc, n (paragraph 0099) is a scale factor of recording density, and m is a recording start address (inherent). It should be noted that the presence of a recording start address, m, is inherent because all optical recording/playing devices necessarily require an initial reference address where recording/playing should begin. The factor "x-m" in the above equation is inherent because it is well known in the art that a recording address corresponding to a specific section of an optical disc is obtained by subtracting the starting address, m, from an absolute time address, x. The reference suggests on paragraph 0099 using a scale factor, n, of 1.4, which is a scale factor of recording density; and it is inherently suggested that this scale factor is used to adjust the actual start address, i.e., $n(x-m)$. Finally, it is well known in the art that the recording address y is derived by adding the start address, m, to the specific section of an optical disc, i.e., $m+(x-m)$. Without scaling, or with a scale factor of 1, the equation simply becomes $y = x$. By using the derived scale factor and applying it to the factor "x-m", $y = m + $ (scaled version), i.e., $y=n(x-m)$.

In regard to claim 2, Shimizu discloses that information regarding storage capacity for data storage on the disc is received, and on the basis of the received information, the scale factor n of recording density is determined (paragraphs 0092 & 0099).

In regard to claims 6 & 22, Shimizu discloses that the received information regarding storage capacity is sent from an external computer (see solution). The presence of a control part

61, a reference clock, and a means for detecting addresses suggests the presence of an external

computer.

In regard to claim 18, Shimizu discloses determining the scale factor n of recording

density on the basis of information regarding storage capacity for data storage on the disc

received (paragraphs 0092 & 0099).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claims 3, 4, 19 & 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu

in view of Shishido et al. (hereafter Shishido) (US 2002/0136137).

For a description of Shimizu, see the rejection above. However, in regard to claims 3 &

19, Shimizu does not disclose a means/step for comparing the received information regarding

storage capacity and a predetermined maximum storage capacity.

Shishido discloses a means/step for comparing received information regarding storage

capacity and a predetermined maximum storage capacity (page 11, paragraph 0307). It would

have been obvious to one of ordinary skill in the art at the time of invention by the applicant to

have added the comparing means/step of Shishido to the apparatus/method of Shimizu, the

motivation being to avoid unnecessary writing in an event that a recording capacity is

insufficient, thereby preventing disc wastage.

Furthermore, in regard to claims 4 & 20, Shishido and hence the obvious combination

noted above, discloses that if the predetermined maximum storage capacity is exceeded in a

comparison of the received information regarding storage capacity and the maximum storage

capacity, data indicating that recording is impossible is sent (page 11, paragraph 0307).

8.   Claims 7 & 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu.

For a description of Shimizu, see the rejection above. Furthermore, Shimizu suggests a

value of n greater than 1, i.e., 1.4 (paragraph 0099). Shimizu does not disclose a value of n less

than or equal to 1.2.

It would have been obvious to one of ordinary skill in the art at the time of invention by

the applicant to have used a scale factor less than or equal to 1.2 because applicant has not

disclosed that a scale factor less than or equal to 1.2 provides an advantage, is used for a

particular purpose, or solves a stated problem; and the claimed invention would have been

expected to perform equally well with either the scale factor of 1.4 taught by Shimizu or the

claimed scale factor less than or equal to 1.2, because both values perform the same function of

providing a more accurate and reliable recording address on the basis of recording density.

9.   Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu as applied

to claim 7 above, and further in view of Shishido.

For a description of Shimizu, see the rejection above. However, Shimizu does not

disclose that if scale factor n that is determined on the basis of received information exceeds 1.2,

a response is sent indicating that recording at that scale factor n is impossible.

Shishido discloses sending a response indicating that recording is impossible (page 11,

paragraph 0307) if a maximum storage capacity is exceeded, but does not specify a scale factor

of 1.2. At the time of invention by the applicant, it would have been obvious to one of ordinary

skill in the art to have added the step of sending a response indicating that recording is

impossible if the scale factor of Shimizu exceeds 1.2, because applicant has not disclosed that a

specific value of 1.2 provides an advantage, is used for a particular purpose, or solves a stated

problem, and it would have been recognized that the step of sending a response indicating that

recording is impossible if a maximum storage capacity is exceeded, as taught by Shishido, or if

the scale factor exceeds 1.2, as claimed, would have produced the same result because both

conditions perform the same function of avoiding unnecessary writing in an event that a

recording capacity is insufficient, thereby preventing disc wastage.

10.   Claims 9, 10 & 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in

view of Ishikawa et al. (hereafter Ishikawa) (JP 2000099397 A).

In regard to claim 9, Shimizu discloses a disc recording apparatus for recording data to a

disc comprising a recording address calculated as $y=n(x-m)+m$, where x is the absolute time

address generated on the basis of a pregroove formed on the disc, n is the scale factor of

recording density, and m is the recording start address (see claim 1 rejection above). However,

Shimizu does not disclose performing the above calculation in the case where an offset address

does not exist and calculating a recording address z as $z=y+p$ in the case where recording is

performed with the offset address, where p is the offset address.

Ishikawa (see solution) discloses calculating a recording address as $z=y+p$ (y: access

address; p: offset address). It would have been obvious to one of ordinary skill in the art at the

time of invention by the applicant to have added the calculating step of Ishikawa in the case

where an offset address exists in the apparatus of Shimizu, the motivation being to compensate

for the offset, thereby maintaining accurate recording.

In regard to claim 10, Shimizu discloses that information regarding storage capacity of

the disc for recording data is received, and the scale factor n of recording density is determined

on the basis of the received information (paragraphs 0092 & 0099).

In regard to claim 14, Shimizu discloses that the received information regarding storage

capacity is sent from an external computer (see claim 6 rejection above).

11.   Claims 11 & 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu &

Ishikawa as applied to claim 10 above, and further in view of Shishido.

For a description of Shimizu, see the rejection above. However, in regard to claim 11,

Shimizu does not disclose a means for comparing the received information regarding storage

capacity and a predetermined maximum storage capacity.

Shishido discloses a means for comparing received information regarding storage

capacity and a predetermined maximum storage capacity (page 11, paragraph 0307). It would

have been obvious to one of ordinary skill in the art at the time of invention by the applicant to

have added the comparing means of Shishido to the apparatus of Shimizu, the motivation being

to avoid unnecessary writing in an event that a recording capacity is insufficient, thereby

preventing disc wastage.

Furthermore, in regard to claim 12, Shishido and hence the obvious combination noted

above, discloses that if the predetermined maximum storage capacity is exceeded in a

comparison of the received information regarding storage capacity and the maximum storage

capacity, data indicating that recording is impossible is sent (page 11, paragraph 0307).

Conclusion

12.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sasaki et al. (EP 0908885 A2) discloses a time code generator wherein when recording signals at a speed of N times, the time code value is incremented from the initial value of time code at N frame steps.

Yoshimoto et al. (JP 2000149451 A) discloses a device that obtains the physical position of a target sector by finding the logical track address and the sector address corresponding to linear logical address with an integer operation.

Kim (US 2002/0012300 A1) discloses an information recording method and apparatus that can efficiently provide a logical address varied in accordance with recording density variation of the unit record region by detecting an ID code in the optical recording medium, converting the detected ID code into a linear code, converting a value of the linear code in accordance with a recording density, and converting again the linear code into a time code adaptable to the optical recording medium.

Akiyama et al. (US 6,469,961) discloses an optical recording medium for accurately deriving the address information or the disc rotation control information despite narrow track pitch and for recording signals to a high density.

Allowable Subject Matter

13.   Claims 5, 13 & 21 objected to as being dependent upon rejected base claims, but would

be allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims.

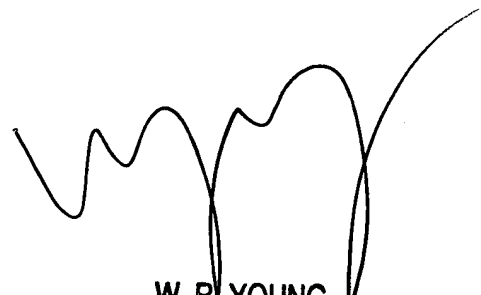The following is a statement of reasons for the indication of allowable subject matter:

In regard to claims 5, 13 & 21 no prior art of record alone or in combination discloses or

suggests a disc recording apparatus/method for recording data on a disc comprising a recording

address y calculated from $y=n(x-m)+m$, where x is an absolute time address generated on the

basis of a pregroove formed on the disc, n is a scale factor of recording density, and m is a

recording start address; and a recording address z calculated as $z=y+p$ in the case where

recording is performed with the offset address, where p is the offset address, wherein the scale

factor n is determined on the basis of a received information regarding storage capacity, further

comprising **means/step for comparing the received information regarding storage capacity**

and two predetermined maximum storage capacities.

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Peter Vincent Agustin whose telephone number is (703) 305-

8980. The examiner can normally be reached on Monday thru Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PVA
04/30/2004

W. R. YOUNG
PRIMARY EXAMINER